

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A continuously variable transmission comprising:
 - a transmission input,
 - a transmission output,
 - a ~~continuously variable transmission unit ("variator")~~ variator which provides a continuously variable variator ratio, and
 - gearing constructed and arranged to couple the variator between the transmission input and the transmission output in either of a low regime and a high regime, so that the transmission output is drivable from the transmission input at a transmission ratio which is related to the variator ratio,
 - the relationship between the variator ratio and the transmission ratio being different in the two regimes,
 - the gearing incorporating ~~a~~ first hydraulically actuated clutch ~~means for engaging and disengaging to engage and disengage the~~ low regime and ~~a~~ second hydraulically actuated clutch ~~means for engaging and disengaging to engage and disengage the~~ high regime and being such as to provide a synchronous ratio at which a change between low and high regimes at constant variator ratio produces no change in transmission ratio, and
 - the transmission being provided with hydraulics incorporating a shift valve which controls application of hydraulic pressures to the first and second ~~clutches~~ clutch ~~means~~, so that a change in state of the shift valve causes one of the clutch ~~means~~ to change from engaged to disengaged and the other of the clutch ~~means~~ to change from disengaged to engaged, thereby and causing the transmission to change from one regime to the other, the

transmission further comprising

a hydraulic actuator, wherein the hydraulic actuator's force determines variator reaction torque,

a valve arrangement for providing first and second variator control pressures, and

a switching valve having a first state in which it applies the first variator control pressure to a first side of the hydraulic actuator, and a second state, in which it applies the second variator control pressure to a second side of the hydraulic actuator, so that a change in state of the switching valve produces a change in magnitude and direction of the actuator's force, the state of the switching valve being controlled by the shift valve.

2. (Original) A continuously variable transmission as claimed in claim 1 wherein the shift valve is a two state valve which causes the transmission to adopt low regime when in one state and high regime when in the other state.

3. (Currently amended) A continuously variable transmission as claimed in claim 1 wherein the engagement of one clutch ~~means~~ and the disengagement of the other clutch take place concurrently.

4. (Currently amended) A continuously variable transmission as claimed in claim 1 wherein the shift valve is an electrically controlled valve which applies a hydraulic control pressure to a clutch control valve which in turn controls application of hydraulic pressures to the first and second clutches ~~means~~.

5. (Currently amended) A continuously variable transmission as claimed in

claim 4 wherein the clutch control valve has two states in one of which it connects the first clutch means to high pressure and exhausts the second clutch means and in the other of which it connects the second clutch means to high pressure and exhausts the first clutch means.

6. (Canceled)

7. (Original) A continuously variable transmission as claimed in claim 6 wherein a change in state of the shift valve also causes a change in the magnitude of the actuator force.

8-9. (Canceled)

10. (Original) A continuously variable transmission as claimed in claim 8 wherein the first variator control pressure is supplied to a reducing valve whose output pressure forms the second variator control pressure.

11. (Original) A continuously variable transmission as claimed in claim 10 wherein the reducing valve maintains a substantially constant ratio between the first and second control pressures.

12. (Previously presented) A continuously variable transmission as claimed in claim 8 further comprising a crossover valve connected between the switching valve and the hydraulic actuator so that a change in state of the crossover valve reverses

the direction of action of the hydraulic actuator without the regime change.

13. (Original) A continuously variable transmission as claimed in claim 12 wherein the crossover valve is electrically controlled independently of the shift valve.
14. (Cancelled)